

EXHIBIT A



PLEASE STAMP TO ACKNOWLEDGE RECEIPT OF THE FOLLOWING: 2

In Re Application of: BENOIT et al.

Application No.: 10/069,405

Filing Date: May 29, 2002

Group Art Unit: 1711

Examiner: Tran, T.T.

Confirmation No.: 3630

For: METHOD FOR ENCAPSULATING ACTIVE SUBSTANCES BY COACERVATION OF
POLYMERS IN NON-CHLORINATED ORGANIC SOLVENT

Supplemental Amendment

Dated: December 19, 2005

Docket No.: 03715-0110-00

KJM/amm - Mail Drop 626



(Due Date: N/A)



PATENT
Customer No. 22,852
Attorney Docket No. 3715-0110

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:)	
)	
Jean-Pierre BENOIT et al.)	Group Art Unit: 1711
)	
Application No.: 10/069,405)	Examiner: Tran, T.T.
)	
Filed: May 29, 2002)	Confirmation No.: 3630
)	
For: METHOD FOR)	
ENCAPSULATING ACTIVE)	
SUBSTANCES BY)	
COACERVATION OF)	
POLYMERS IN NON-)	
CHLORINATED ORGANIC)	
SOLVENT)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

SUPPLEMENTAL AMENDMENT

This Amendment supplements the Amendment filed on November 16, 2005.

Please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims in this paper.

Remarks follow the amendment sections of this paper, on page 8.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (CURRENTLY AMENDED) A process for microencapsulating an active principle by coacervation comprising:

-the controlled desolvation or coacervation of a polymer dissolved in an organic solvent containing said active principle, wherein said coacervation is induced by addition of a nonsolvent, which is miscible with said organic solvent, and said coacervation being reflected by the deposition of the polymer at the surface of the active principle, and then

curing the polymer deposit by addition of a curing agent, said curing being reflected by the formation of a continuous film coating said active principle,

wherein

-the solvent for the polymer is-selected from ethyl acetate, N-methylpyrrolidone, methyl ethyl ketone, acetic acid, and propylene carbonate, and mixtures thereof,

the nonsolvent and the curing agent are selected respectively, from the following pairs:

(A) 1,2-propanediol and 2-propanol,

(B) glycerol and 1,2-propanediol,

(C) glycerol and 2-propanol,

(D) 2-propanol and 1,2-propanediol,

(E) ethanol and water,

(F) 2-propanol and water,

(G) 1, 2-propanediol and water,

(H) ethanol and 2-propanol,

(I) glycerol and water, and

(J) methylethylketone and water.

2. (CANCELED)

3. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the polymer is a biodegradable polymer with a weight-average molecular mass (Mw) of between 10,000 and 90,000 g/mol, and with a polydispersity index (Ip) of between 1 and 3.5.

4. (PREVIOUSLY PRESENTED) The process as claimed in claim 3, wherein the polymer is a lactic acid polymer (PLA) or a polymer of lactic acid and of glycolic acid (PLAGA).

5. (PREVIOUSLY PRESENTED) The process as claimed in claim 4, wherein the polymer is a PLAGA such that Mw is between 15,000 and 25,000, Ip is between 1 and 2, and the percentage of glycolic acid is less than 30%.

6. (PREVIOUSLY PRESENTED) The process as claimed in one of claims 1, 3, 4, or 5, wherein the polymer concentration in the solvent is between 1 and 10% (w/v).

7. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the nonsolvent/solvent ratio by volume is between 1/2 and 1/1.

8. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the coacervation temperature is less than the glass transition temperature of the polymer.

9. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the curing agent also contains a surfactant, the concentration of said surfactant in the curing agent being between 0.1 and 10% (v/v).

10. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the surfactant is a sorbitan ester.

11. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the curing agent/solvent ratio by volume is between 5/1 and 180/1.

12. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the microspheres are cured with stirring at a speed of between 500 and 1500 rpm.

13. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the curing temperature is less than or equal to 25°C.

14. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein when the active principle forms a dispersion in the polymer solution, the solvent and the nonsolvent have a viscosity that is high enough to stabilize the active principle.

15. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the active principle is dispersed by ultrasound to form a dispersion in the polymer solution, and the coacervation is performed with gentle stirring.

16. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the particle size of the active principle is between 1 and 50 micrometers.

17. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the solvent is N-methylpyrrolidone, the nonsolvent is ethanol and the curing agent is water.

18. (PREVIOUSLY PRESENTED) The process as claimed in claim 1, wherein the solvent is ethyl acetate.

19. (PREVIOUSLY PRESENTED) The process as claimed in claim 18, wherein the solvent is ethyl acetate, the nonsolvent is 2-propanol and the curing agent is water.

20. (PREVIOUSLY PRESENTED) The process as claimed in claim 18 or 19, wherein the polymer is a 75:25 PLAGA such that the Mw is between 15,000 and 20,000.

21. (PREVIOUSLY PRESENTED) The process as claimed in claim 1,
wherein the solvent is acetic acid, the curing agent is water and the polymer is a 50:50
PLAGA.
22. (CANCELED)
23. (CANCELED)
24. (CANCELED)
25. (PREVIOUSLY PRESENTED) The process as claimed in claim 3,
wherein the polymer is a biodegradable polymer with a weight-average molecular mass
(Mw) of between 15,000 and 50,000 g/mol.
26. (PREVIOUSLY PRESENTED) The process as claimed in claim 5,
wherein the polymer is a PLAGA such that Mw is equal to 17,500.
27. (PREVIOUSLY PRESENTED) The process as claimed in claim 5,
wherein the polymer is a PLAGA such that I_p is equal to 2.6.
28. (PREVIOUSLY PRESENTED) The process as claimed in claim 5,
wherein the polymer is a PLAGA such that the percentage of glycolic acid is equal to
25%.
29. (PREVIOUSLY PRESENTED) The process as claimed in claim 6,
wherein the polymer concentration in the solvent is about 4% (w/v).
30. (PREVIOUSLY PRESENTED) The process as claimed in claim 8,
wherein the coacervation temperature is less than or equal to 25° C.
31. (PREVIOUSLY PRESENTED) The process as claimed in claim 30,
wherein the coacervation temperature is less than 4° C.

32. (PREVIOUSLY PRESENTED) The process as claimed in claim 31, wherein coacervation temperature is equal to -4°C .
33. (PREVIOUSLY PRESENTED) The process as claimed in claim 10, wherein the surfactant is polyoxyethylene 20 oleate or polyvinyl alcohol.
34. (PREVIOUSLY PRESENTED) The process as claimed in claim 11, wherein the curing agent/solvent ratio by volume is between 15/1 and 120/1.
35. (PREVIOUSLY PRESENTED) The process as claimed in claim 13, wherein the curing temperature is less than 4°C .
36. (PREVIOUSLY PRESENTED) The process as claimed in claim 35, wherein the curing temperature is less than or equal to 0.5°C .
37. (PREVIOUSLY PRESENTED) The process as claimed in claim 15, wherein the coacervation is performed with a gentle stirring of magnetic or mechanical type.
38. (PREVIOUSLY PRESENTED) The process as claimed in claim 16, wherein the particle size of the active principle is between $5\text{ }\mu\text{m}$ and $30\text{ }\mu\text{m}$.
39. (PREVIOUSLY PRESENTED) The process as claimed in claim 20, wherein the polymer is a 75:25 PLAGA such that the M_w is equal to 17,500.
40. (PREVIOUSLY PRESENTED) The process as claimed in claim 20, wherein the polymer is a 75:25 PLAGA such that the I_p is equal to 1.6.

REMARKS

Applicants respectfully request entry of this Amendment. Claim 1 has been amended by adding solvent pairs (G), (H), (I), and (J). Support for this amendment can be found in original claim 2.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

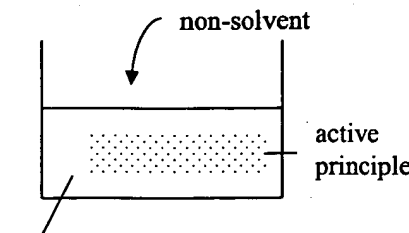
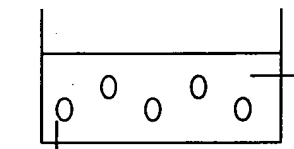
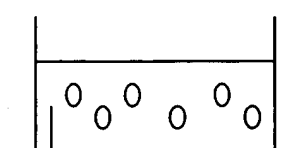
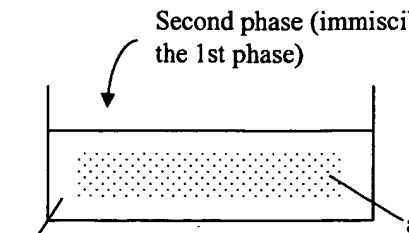
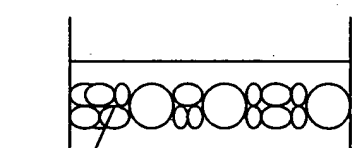
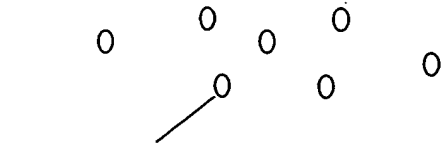
Dated: December 19, 2005

By: 

Kenneth J. Meyers
Reg. No. 25,146
Phone: 202-408-4033
Fax: 202-408-4400
Ken.Meyers@Finnegan.com

EXHIBIT B



Our process	WO' 799 "Solvent extraction"
 <p>non-solvent</p> <p>active principle</p> <p>Polymer dissolved in an organic solvent</p> <p>↓ Stirring</p>  <p>one liquid phase only (because the solvent and non-solvent are <u>miscible</u>)</p> <p>pre-formed <u>solid</u> microparticles (polymer deposited at the surface of the active principle – not dissolved)</p> <p>↓ Addition of curing agent</p>  <p>Microparticles <u>cured</u></p>	 <p>Second phase (immiscible with the 1st phase)</p> <p>active principle</p> <p>First phase (polymer + blend of solvents miscible one to each other + active principle)</p> <p>↓ emulsion</p>  <p>2 liquid phases <u>immiscible</u> => emulsion</p> <p><u>liquid droplets</u> containing the polymer <u>dissolved</u> therein and the active principle</p> <p>↓ aqueous <u>extraction</u> with a <u>quench liquid</u></p>  <p>Solid microparticles</p>